

Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the application.

Listing of Claims:

1-45. (Cancelled)

46. (New) A distal protection assembly, comprising:

an outer sheath having a proximal end, a distal end, and a lumen extending at least in part therethrough;

an inner shaft disposed within the lumen, the inner shaft having a proximal end and a distal end;

a distal protection device disposed at the distal end of the inner shaft;

a manifold coupled to the proximal end of the inner shaft, the manifold including an actuator assembly coupled to the proximal end of the outer sheath and capable of moving the outer sheath relative to the inner sheath; and

wherein the actuator assembly includes a button axially rotatable along a line that is parallel to a longitudinal axis of the outer sheath, the button having a gear in engagement with a number of gear teeth on the proximal end of the outer sheath.

47. (New) The distal protection assembly in accordance with claim 46, wherein axial rotation of the button results in movement of the outer sheath relative to the inner shaft.

48. (New) The distal protection assembly in accordance with claim 46, wherein the distal protection device comprises a filter.

49. (New) The distal protection assembly in accordance with claim 46, wherein the distal protection device comprises a mesh.

50. (New) The distal protection assembly in accordance with claim 46, wherein the distal protection device comprises a strut.

51. (New) The distal protection assembly in accordance with claim 46, wherein the distal protection device comprises a rib.

52. (New) The distal protection assembly in accordance with claim 46, wherein the proximal end of the outer sheath includes a proximal tubular member.

53. (New) The distal protection assembly in accordance with claim 52, wherein the proximal tubular member includes a key adapted to engage a notch formed on the manifold.

54. (New) A distal protection assembly, comprising:
an outer sheath having a proximal end, a distal end, and a lumen extending at least in part therethrough, the proximal end of the outer sheath including a proximal tubular member having a number of gear teeth;

an inner shaft disposed within the lumen, the inner shaft having a proximal end and a distal end;

a distal protection device disposed at the distal end of the inner shaft;

a manifold coupled to the proximal end of the inner shaft, the manifold including an actuator assembly coupled to the proximal tubular member and capable of moving the outer sheath relative to the inner sheath;

wherein the actuator assembly includes a button axially rotatable along a line that is parallel to a longitudinal axis of the outer sheath, the button having a number of gear teeth in engagement with the gear teeth on the proximal tubular member; and

wherein axial rotation of the button results in movement of the outer sheath relative to the inner shaft.

55. (New) The distal protection assembly in accordance with claim 54, wherein the distal protection device comprises a filter.

56. (New) The distal protection assembly in accordance with claim 54, wherein the distal protection device comprises a mesh.

57. (New) The distal protection assembly in accordance with claim 54, wherein the distal protection device comprises a strut.

58. (New) The distal protection assembly in accordance with claim 54, wherein the distal protection device comprises a rib.

59. (New) The distal protection assembly in accordance with claim 54, wherein the proximal tubular member includes a key adapted to engage a notch formed on the manifold.

60. (New) A distal protection assembly, comprising:

- an outer sheath having a proximal end, a distal end, and a lumen extending at least in part therethrough, the proximal end of the outer sheath including a proximal tubular member having a number of gear teeth;
- an inner shaft disposed within the lumen, the inner shaft having a proximal end and a distal end;
- a distal protection device disposed at the distal end of the inner shaft;
- a manifold coupled to the proximal end of the inner shaft and including a notch adapted to receive a key formed on the proximal tubular member, the manifold including an actuator assembly coupled to the proximal tubular member and capable of moving the outer sheath relative to the inner sheath;

wherein the actuator assembly includes a button axially rotatable along a line that is parallel to a longitudinal axis of the outer sheath, the button having a number of gear teeth in engagement with the gear teeth on the proximal tubular member; and

wherein axial rotation of the button results in movement of the outer sheath relative to the inner shaft.